SEPA Guidance

# IED-TG-43 Pollution Prevention and Control (Scotland) Regulations 2012

## Guidance on PPC Part A Permit Reviews following the publication of BAT Conclusions Documents or developments in BAT

**This guidance may be subject to review and be changed or withdrawn in light of regulatory or legislative changes, future government guidance or experience of its use.**

**For this guide to be useful it needs to be updated regularly and maintained with the latest information; so, if you are aware of any other information which may be of use and suitable for the guide or you believe that some of the information in the guide is incorrect or outdated, please let us know**

## Contents

## Introduction

This document sets out SEPA's guidance for the review of PPC Part A permits following the publication of Best Available Techniques (BAT) Conclusions documents, or where significant developments in BAT may need to be reflected in a permit.

**All** permits at a PPC Part A installation must be reviewed:

- following the publication by the European Commission under Article 13 of the Industrial Emissions Directive (IED) of the BAT Conclusions document that covers the main activity of the installation; or
- where there is no BATc for the main activity at an installation, it is known that there have been developments in BAT that would allow a significant reduction in emissions from the installation – SEPA will determine whether there have been developments in BAT that would require a permit to be reviewed.

BAT Conclusions documents (BATc) are the reference for SEPA when setting permit conditions. They have the purpose of identifying the relevant issues for consideration in determining whether BAT is being employed. They should influence SEPA's view of and allow an informed judgement in determining site specific BAT to be made. The BATc are not exhaustive or prescriptive, therefore if a technique is not explicitly mentioned this does not mean that an installation is not BAT. Site specific BAT should result in emission levels that are within the BAT-AEL range.

Permit reviews triggered by the publication of the BATc differ materially from other permit reviews as information collection and assessment is required prior to the commencement of the BATc permit review and any subsequent variation. Prior to commencing the permit review an installation specific BAT assessment must be completed. This will include assessment of what is considered to be BAT for that installation against any relevant BATc.

This guidance should be used in conjunction with the procedure **IED-P-13** (*PPC Permit Reviews following the publication of BAT Conclusions Documents or developments in BAT*) and is intended to provide clarity and explanatory guidance for each of the procedural steps related to the BAT assessment. The BAT assessment and conclusions of a permit review triggered by the publication of the BATc should be recorded in **IED-DD-12**.

Regulation 44 of The Pollution Prevention and Control (Scotland) Regulations 2012 (PPC 2012) specifies other circumstances in which a permit review must take place. This includes where:

- SEPA periodically reviews the conditions of the permit;
- the pollution caused by the installation/mobile plant is of such significance that the existing emission limit values (ELVs) need to be revised, or new ELVs need to be included;
- the operational safety of the activities carried out at the installation or mobile plant requires other techniques to be used; or
- it is necessary to comply with a new or revised environmental quality standard in accordance with Article 18 of the IED.

If a permit review is to be undertaken in relation to any of these other scenarios, please follow the procedure for reviews of PPC Permits (**IED-P-09**), and use decision document (**IED-DD-10**).

## What is a BATc Permit Review?

The IED specifies that a BATc review is considered to be a process whereby site specific BAT is determined with reference to relevant BATc and all the conditions of a permit are reconsidered.

Following the completion of the review actions may be required, including the amendment of some or all permit conditions through a permit variation. Any consequential actions such as permit variations must be completed within any statutory timescales – i.e. within the 4 year BATc review period. This is because the operator(s) must meet BAT and comply with any revised permit conditions by the end of the BATc review period.

The review and subsequent variation of permit conditions should ordinarily be completed as soon as possible after the publication of the BATc for the main activity of the installation. This is desirable in order for operators to have sufficient time to be able to respond to the revised conditions, particularly as significant investments may be necessary.

## Objectives & Outcomes

PPC 2012 specifies objectives and outcome criteria that must be fully assessed as part of any BATc review. These objectives and outcomes are described in further detail below.

### Objective 1

Regulation 44(5) (a) of PPC 2012 requires SEPA to perform a comparison between the performance of the techniques employed at an installation and BAT whenever it conducts a review.

Therefore, in performing a BAT assessment SEPA must consider the techniques in the BATc where they are considered applicable, and specifically that account is taken of whether the installation is BAT and the emissions are within the BAT-AEL ranges.

This doesn't mean that techniques described in the BATc always need to be considered by SEPA and flexibility is provided for SEPA in how it uses BATc in general. It is anticipated that UK interpretational documents will be provided for each BATc that will provide further clarity on how individual BATc are to be interpreted; particularly where there are ambiguities.

Furthermore, where SEPA considers that BAT is already being employed this does not need to be reassessed; appraisal of BAT should be targeted to only those areas where potential gaps or shortfalls exist.

### Objective 2

Regulation 44(5) (b) of PPC 2012 requires that SEPA ensures permit(s) comply fully with the requirements of the IED.

This requirement goes beyond ensuring that the BATc are the reference for setting permit conditions or that BAT is employed because PPC 2012 has numerous principles and permitting requirements that are not addressed by BATc that must also be assessed.

It should be noted that this applies to all PPC Part A Installations, even those where non-IED activities are operated, although the nature of the permit review may be different in such circumstances as there will be no directly relevant BATc to take account of.

As a permit should be made generally PPC 2012 compliant after its first review, its second and subsequent reviews are therefore likely to focus on any BATc that apply, developments in BAT or the issue that prompted the review (e.g. a new EQS).

### Outcomes

There are 3 possible outcomes following the review of the permit(s) at the installation.

> **Outcome 1 –** No change to the permit required – where the Installation is BAT and all aspects of the permit are fit for purpose, sufficiently comprehensive and reflect the most recent permit template.
>
> **Outcome 2 –** Variation to the permit required – in order to ensure that it complies with PPC2012 and reflects BAT.
>
> **Outcome 3 –** Enforcement action commenced – if the holder of the permit cannot comply with PPC 2012 or meet BAT.

There is no need to issue a complete set of revised schedules in order to deliver a PPC 2012 compliant Permit, although a consolidated permit may be served if it is sensible or practicable, e.g. to achieve greater consistency across a sector, or where the permit has already been subject to many variations. Regulation 16 of PPC 2012

allows that where a permit is varied it can subsequently be replaced with a consolidated permit – following the BATc review may be an appropriate opportunity to do this (consolidation of the permit can occur only after the permit variation notice has been served, it cannot be used to effect a variation).

However it should be noted that due to the expectation that a revised permitting approach will accompany the introduction of SEPA's Permissioning Service and the Integrated Authorisation Framework there should, unless absolutely necessary, be a presumption against wholesale changes to the permit.

## BAT Conclusions Documents

### Scope & purpose

A BATc document is defined in the IED as a document containing the parts of a BAT reference document (BRef) laying down the conclusions on best available techniques, their description, information to assess their applicability, the emission levels associated with the best available techniques, associated monitoring, associated consumption levels and, where appropriate, relevant site remediation measures.

Each BATc has a scope in terms of which activities it covers. The BATc will be derived from a parent BRef and each will focus on a single activity, or a closely related collection of activities. Non-IED PPC Part A activities are not included within the scope of any BAT Conclusions document.

It should be noted that Article 13(7) of the IED stipulates that prior to the publication of BATc the conclusions on Best Available Techniques from BAT reference documents adopted prior to the entry into force of the IED shall be considered to be BAT Conclusions. This means pre-existing BAT reference documents are considered to be BATc and therefore BATc already exist for most PPC Part A activities related to the IED.

BATc have a key role in the review process as their publication will be the main prompt for SEPA to conduct a BATc review and they must be the reference for setting permit conditions. In basic terms the BATc will describe the issues to be considered and the expected performance levels of an installation; it is then for the operator to demonstrate and ensure that the installation can meet these performance levels.

Despite this, it is important to note that the BATc include a statement declaring that they are not prescriptive regarding the particular techniques that should be used, and that other techniques can also be used. This means that they are not exhaustive in describing techniques but rather provide the focus on the areas to pay attention to and performance expectations for SEPA to reference when reviewing a permit – and not the means of achieving those outcomes.

Furthermore, it should be noted that a permit condition is not necessarily required to address each individual BAT conclusion, although all relevant BAT conclusions should be addressed in SEPA's decision document for the review. It is the decision document that will document SEPA's BAT assessment.

### Structure & Content

A BATc document contains a list of what is considered to be BAT in terms of performance for a specific activity, or related group of activities (published BATc documents). Each individual BAT conclusion is numbered to facilitate referencing and they are organised in such a way that several individual conclusions are grouped according to common features.

In addition, each individual BAT conclusion is presented using the following standard structure:

- **Environmental objective** – This will be a statement of the environmental objective that the BAT conclusion is pursuing – i.e. prevent or reduce dust emission, water consumption or the generation of waste.

- **Techniques** – A list of the techniques or combination of techniques that can be used to achieve the objective. Unless otherwise stated the BAT conclusions are generally applicable for the activity concerned – where there are restrictions on applicability this is explicitly detailed (this may be in the form of restricting the BATc to specific processes or activities, or may relate to the characteristics of the

emission). As mentioned previously, this list is not exhaustive in describing techniques, but rather provides details of the areas to pay attention to and performance expectations for SEPA to reference when reviewing a permit – and not the means of achieving those outcomes.

- **Environmental performance level associated with BAT** – This is a quantitative measure of performance that can be achieved in pursuit of the environmental objective if BAT is employed. It will not be present in every BAT conclusion. Any BAT conclusion that doesn't contain an environmental performance level is termed a "narrative" BAT conclusion. A narrative BAT conclusion usually arises as it addresses a matter where a performance level is not appropriate or it has been impossible to define a performance level.

## Interpretation of BAT Conclusions

In order to resolve any ambiguities and uncertainties that may exist in a BATc, the UK regulatory agencies will prepare an interpretation document. This work will be overseen by the UK BRef Programme Board. In the event that agreement across the UK cannot be achieved, SEPA may develop its own interpretation document.

While it is anticipated that the UK Interpretation document will be available shortly after the BATc is published, there have been delays in in preparing interpretation documents for some of the early BATc and some may never be produced.

The lack of an interpretation document should not be seen as a barrier to commencing a BATc review, and where ambiguities or uncertainties exist, support should be sought from SEPA's Industry Unit and/or any sector delivery group and SEPA member of the Technical Working Group (TWG) for that BRef.

## Timescales

This procedure recommends as an indicative aspirational timescale that **BATc Reviews should be completed within 1 year from the date of publication of the BATc Document for the main activity of the Installation**. While this timescale is non-binding, due to the significant workload associated with a BATc review it is strongly recommended that staff adheres to them. It is intended that this will allow SEPA to expedite simpler BATc reviews freeing resource in the longer term to focus on the more complex BATc reviews.

Where a review is being undertaken as a consequence of the publication of a BAT conclusions document relating to the main activity of an installation this review and any subsequent variation of the permit must be completed within 4 years from the date of publication.

Failure to complete a BATc Review within the 4 year review period could result in infraction against the UK. Furthermore as a consequence of the BATc review operators may be required to undertake significant investment and upgrade of site operations. It is therefore essential that all BATc reviews are completed within time and commenced ASAP.

## Step 1 – Commencement of Review

The first step of the BATc review process is to confirm with the operator(s) the scope of the review, which BAT conclusions will be considered, and the relevant timescales. SEPA will have written to all operators in advance to confirm the activities carried on at the installation and the main activity, which BATc are applicable, and the anticipated timing of the review for each installation.

### Circumstances requiring a review

PPC 2012 includes explicit provisions requiring SEPA to review permits, and also provides SEPA with a general ability to review permits. Regulation 44 of PPC 2012 specifies the defined circumstances which require a review:

- avoidance of significant pollution – Regulation 44(1)(a);
- operational safety considerations – Regulation 44(1)(b);

- new or revised EQSs – Regulation 44(1)(c);
- publication of the BATc for the main activity – Regulation 44(1)(d);
- developments in BAT – Regulation 44(1)(e); and
- periodically review the conditions – Regulation 44(3).

While all installations could be subject to a review prompted by Regulation 44(1) (a), (b) or (c), it is anticipated that the likelihood of a permit review being required under one of these scenarios is relatively low. Furthermore SEPA policy does not currently require the periodic review of permits under Regulation 44(3). If a permit review is to be undertaken in relation to any of these scenarios please follow the procedure for review of PPC Permits (**IED-P-09**) and use decision document (**IED-DD-10**).

It is anticipated that all PPC Part A Installations carrying on activities prescribed by Annex I to the IED will be subject to the possibility of a review under either Regulation 44(1) (d) or Regulation 44(1) (e), and this guidance specifically addresses these circumstances.

### Scope of a review

A permit review under any aspect of Regulation 44(1) must be conducted on an installation wide basis in order to fully comply with PPC 2012.

For clarity, this means that SEPA **must** review **all** of the permits at an installation, irrespective of the number of operators involved and whether a permit relates to a non-IED activity. Where a permit is to be reviewed, SEPA must also reconsider **every condition** that is contained within those permits.

While the trigger for the review period will be the publication of the BAT conclusions document for the main activity of the installation, this does not mean that the review is limited to just those BAT conclusions – it is possible that other BATc will also be applicable.

It is likely that the BATc covering the main activity of the installation will be within the scope of a vertical BATc where at least one vertical BATc document applies to the activities at the installation. Vertical BATc are those apply only to a discrete activity, group of activities, or an industrial sector.

Horizontal BATc (such as those addressing energy efficiency, industrial cooling systems etc.) cannot cover the main activity at an installation and consequently any review may also need to consider one or more horizontal BATc document, but publication of horizontal BATc will not be the trigger for a permit review at the installation.

### Timing of reviews

A permit review would be required under Regulation 44(1) (d) where the main activity of the installation is covered by a BATc. It is expected that this will be the main reason for SEPA reviewing permits and may result in each permit being reviewed roughly once every 8 years. This is the frequency at which the IED suggests BATc should be reviewed and republished.

Where a review is being undertaken as a consequence of the publication of BATc relating to the main activity of an installation, this review and any subsequent variation of the permit(s) must be completed within a period of up to 4 years from the date of BATc publication. Failure to complete a BATc Review within the 4 year review period could result in infraction against the UK.

Furthermore, as a consequence of the BATc review, operators may be required to undertake significant investment and upgrade of site operations. The Operator must employ BAT by the end of the 4 year review period and have made any necessary upgrades by this time. It is therefore essential that all BATc reviews are commenced and completed ASAP to allow the operator sufficient time to make any necessary investments or changes in operation.

When a BATc covering an activity that is not the main activity at the installation is published there is no requirement to review the permit(s) as a consequence. The installation wide review of all permits would be

prompted only by the publication of the BATc for the main activity at the installation. At this stage SEPA is required to take all relevant BATc into account.

However, whenever a relevant BATc is published for an activity that is **not** the main activity, it is good practice for SEPA and the operator to consider the potential consequences of this BATc for the next installation wide review prompted by Regulation 44(1) (d). At the very least, analysis should be performed in order to identify future changes that may be required at the installation. This could be supplemented by varying the permit(s) to add targeted conditions to require options to be considered and/or data to be acquired, or require changes to be made in advance of a future BATc permit review.

Where no BAT conclusions document covers an installation's main activity, but it is known that there have been developments in BAT that would allow a significant reduction in emissions a review must be carried out. As PPC 2012 includes some purely domestic Part A activities and as there may be some IED activities not within the scope of a BATc, it is possible this may provide grounds for permit reviews. However, sufficient developments in BAT that would allow a significant reduction in emissions would need to be demonstrated. The relevant SEPA sector delivery group will determine whether there have been developments in BAT that would require a permit to be reviewed.

### Determining main activity

The main activity at an installation should almost always be judged in the context of vertical BATc documents only, as horizontal BATc by definition cannot ordinarily cover the main activity at an installation.

Many installations will involve activities that are covered by just a single vertical BATc document, in which case there is no need to determine which activity is the main activity at the installation; the activity that is covered by the single relevant BATc document is considered to be the main activity.

However, at a relatively small number of installations, two or more vertical BATc apply, and the 'main activity' must be determined. SEPA uses consideration of the "primary activity" of the installation - consequently, at an installation for the manufacture of chemicals with steam raising boilers and a waste water treatment plant, the main activity is the manufacture of chemicals rather, than the combustion of fuels or waste water treatment. This approach is fully consistent with one of the European Commission's suggestions in its FAQs.

SEPA has developed a matrix of the activities in Annex I to IED (and also Schedule 1 to PPC 2012) with the relevant BRefs, which can be found in the PPC Permitting Manual on SEPA's Intranet. Additionally, the BATc for the main activity for every applicable installation in Scotland has been identified. SEPA is maintaining communication with all operators to confirm the main activity and which BATc are applicable at each installation, particularly as the scope of BATc can change slightly during the development of the BATc.

### Mechanism for reviews

Where the installation has only a single permit the review should be carried out under Regulation 44(1) of PPC 2012.

Where the installation has multiple permits, due to Regulation 44(1) not having fully transposed the requirements of Article 21(3) of the IED, in order to fully comply with the IED, reviews of "additional" permits at the installation (i.e. those that aren't for the main activity) may need to be carried out under Regulation 44(4) at the same time as a review under Regulation 44(1). The IED requires that reviews must be conducted on an installation wide basis.

For clarity the permit that covers the main activity should be reviewed under Regulation 44(1) and any additional permits for activities at the installation, including DAA, should be reviewed under Regulation 44(4).

Regulation 44(4) of PPC 2012 allows SEPA to review a permit at any time.

## Step 2 – Stage 1 BAT Assessment – review existing information

The next stage in the BATc Review is to assess any PPC 2012 compliance gaps which may require the submission of further information. PPC 2012 introduced some new requirements to PPC regulation, some of which are triggered by the commencement of the BATc review.

### Best Available Techniques

Any relevant changes to site-specific BAT since the permit was granted should be examined, and then the scope of relevant BATc must be assessed. SEPA will undertake this assessment based in its understanding of the installation from: on the ground knowledge; permit and variation applications; previous decision documents; reports; and inspections.

In order to ensure the BATc review process is as efficient as possible and not overly onerous for SEPA or the operator(s), it is crucial any areas already known to be PPC 2012 compliant or that employ BAT are identified. Aspects already known to be PPC 2012 compliant or BAT do not need to be reappraised. The SEPA inspector should determine if it is necessary to collect other information from the operator(s) and ensure that any additional information that needs to be requested is targeted.

### Baseline Reports

The IED introduced additional site condition requirements for Part A installations, namely a requirement to quantify baseline site condition for relevant hazardous substances (RHS) and to undertake periodic monitoring of soil and groundwater. Installations permitted prior to implementation of the IED were previously exempt from the requirement to submit a baseline report for relevant hazardous substances (RHS).

The commencement of the first permit review (since PPC 2012 came into force) acts as trigger for the requirement to submit a baseline report. It is likely that RHS will be present at most Part A installations; it is therefore recommended that operators are asked to carry out an assessment of the RHS present at the installation and to review the existing site report at the start of the first permit review process. Further information can be found in Appendix 1.

### PPC 2012 Compliant Permit Conditions

Regulation 23(1) requires SEPA to include conditions that are necessary to ensure a high level of protection for the environment as a whole, taking account of the following principles:

- appropriate preventative measures are taken against pollution, in particular through the application of Best Available Techniques (BAT);
- no significant pollution is caused;
- waste generation is prevented or, where that is not feasible, the waste hierarchy is implemented;
- energy is used efficiently;
- measures are taken to prevent accidents and limit their consequences; and
- measures are taken to avoid pollution when operations cease.

In addition to this, the remainder of Regulation 23 and also Regulation 25 of PPC 2012 set out general provisions that must be addressed by permit conditions. These requirements are summarised below:

- **Emissions and Emission Limit Values (ELVs)** – The need to set emission limit values and require appropriate monitoring, assessment and reporting of emissions. The principle that no significant pollution should be caused and the requirement to minimise long distance and transboundary pollution are also relevant. Further information can be found in Appendix 3.

- **Waste Generation and Management** – The need to ensure appropriate monitoring and management of waste. The principle that waste generation should be prevented and that any unavoidable waste is subjected to the waste hierarchy. Further information can be found in Appendix 4.

- **Other than Normal Operating Conditions and Accidents** – The need to address measures to deal with other than normal operating conditions and the need to report incidents and accidents without delay. The principle that no significant pollution should be caused and trans-boundary pollution is also relevant. Further information can be found in Appendix 5.

- **Protection of Soil and Groundwater** – The need to require preventative measures to be adopted and for surveillance and monitoring to assess the efficiency of these measures. There is also the requirement for the periodic monitoring of the condition of soil and groundwater. The principle that no significant pollution should be caused and the requirement to minimise long distance and transboundary pollution are also relevant. Further information can be found in Appendix 2.

- **Commencement and Cessation of Operations** – The need to ensure that any measures that may be necessary prior to the operation of an installation or after the definitive cessation of operations at an installation are taken. Further information can be found in Appendix 6.

There are other areas that are not specifically mentioned in either Regulation 23 or 25 of PPC 2012 but which are included in the list of permitting principles and/or may be included in BATc. Given the requirement to ensure a high level of protection for the environment as a whole and the requirement to take account of BATc, there may be a need to also include conditions in permits to address the following general issues:

- **Energy Efficiency** – One of the principles that must underpin SEPA's permitting is that energy is used efficiently. In addition, BATc may contain information regarding energy consumption. However where an installation is subject to the EUETS regime there is no requirement on SEPA to include conditions specifically relating to energy efficiency. Further information can be found in Appendix 7.

- **Noise & Vibration** – Although both PPC 2012 and the IED define pollution to include emissions of noise and vibration, the manner in which an ELV is defined in both PPC 2012 and the IED may exclude noise and vibration. However BATc may address techniques for the minimisation of emission of noise and vibration. Further information can be found in Appendix 8.

- **Odour** – Odour will arise from the emission of odorous substances and there is the potential for odour to be dealt with via ELVs. However, due to practical considerations ELVs are not commonly used, and odour has traditionally been dealt with through a focus on the impact of odorous emissions. It is unlikely that the BATc will provide a basis for setting ELVs, and the emphasis is on techniques to reduce emissions and environmental monitoring. Further information can be found in Appendix 9.

- **Raw Material and Water Consumption** – BATc may address these operational aspects and they are often a significant way of achieving the principle that waste generation is avoided or minimised. As consumptions are clearly not emissions, ELVs are not relevant, and instead BAT associated performance levels may be included in BATc (e.g. m3 water to produce each tonne of product), and the approach during permitting will need to reflect this. Further information can be found in Appendix 10.

- **Management** – The BATc often make mention of this aspect, with a focus on systems and procedures. This is a matter that SEPA's current permitting methods already assess. Further information can be found in Appendix 11.

### BATc Reviews and Medium Combustion Plant on Installations

Medium Combustion Plant (MCP) are sized between 1-50MW. "New" medium combustion plant are defined as plant which are "put into operation" after 20 December 2018. Existing plant are the converse i.e. they were already operating prior to 20.12.18. Existing plant require to be registered and meet ELVs based on their size as follows:

| Size | Register/permit | Comply with ELVs |
|---|---|---|
| 5-50MW | 1 Jan 2024 | 1 Jan 2025 |
| 1-5MW | 1 Jan 2029 | 1 Jan 2030 |

Any combustion plant, that form a part of the Installation, which would be Medium Combustion Plant in their own right will require as a minimum to meet the ELVs listed in the Medium Combustion Plant Directive (MCPD)/PPC regulations by the appropriate compliance date in the above table. The MCPD states that where these MCP are part of an installation covered by Chapter II of the IED we can put appropriate conditions in the IED Permit (PPC Part A Permit).

It should be noted that there may be occasions where BAT requires that stricter emission levels should be imposed, when compared with MCPD ELVs. This is an acceptable position with appropriate justification. Please note, BAT does NOT apply to standalone MCPs.As a minimum as part of the BATc review, the operator should be advised in writing of the MCPD requirements and encouraged to take measures to ensure compliance by the appropriate date.

## Step 3 – Stage 1 BAT Assessment – gathering additional information

It is likely that as part of the BATc review additional information will need to be gathered from the operator. It is SEPA's policy in relation to all BATc reviews that any additional information that is required should be targeted only to areas where the collection of information is merited.

As such SEPA officers should ensure that prior to requesting any additional information that a screening assessment is made as to whether the pertinent information is already held or information can be more efficiently accessed through other means (i.e. a targeted inspection). Requests for further information should be made only where there are genuine gaps in knowledge. In many cases BAT may be adequately demonstrated by pre-existing decisions, permit conditions, monitoring or inspections.

### Duty of the Operator

Article 21(2) of the IED, as transposed by Regulation 63(2) of PPC 2012 states that, at the request of SEPA, the operator shall submit all information necessary for the purposes of reconsidering permit conditions. This can include, in particular, results of emissions monitoring and other data that enables a comparison of the operation of the installation with the best available techniques (BAT).

This means that the operator has a duty to demonstrate BAT and how the emission levels associated with the best available techniques will be achieved (however note comments above regarding gathering information and use of existing information).

It is in the operator's best interest to provide any required information as this will allow SEPA to complete the BATc review as soon as possible. The quicker a BATc review is completed the sooner any necessary investment decisions or upgrades can be made.

### Duty of SEPA

Article 21(2) also states that when reconsidering permit conditions, SEPA shall use any information resulting from monitoring or inspections. This means that any data SEPA holds as part of day to day regulatory effort may be is pertinent to a BATc review. SEPA should exhaust existing records before any additional information is requested and ensure that any request for information is focussed on gathering the information actually needed.

Furthermore it should be noted that this places a duty on SEPA not only to inspect and regulate compliance with the permit conditions, but also to assess an installation's ongoing "compliance" with BAT. This could include an assessment of an operator's ability to optimise the performance of an installation to meet emission limit values.

A targeted inspection may be necessary to assess whether the installation can meet BAT, has undergone changes since the permit was granted or last reviewed, or the permit is providing an appropriate level of environmental protection. Undertaking a site inspection may be a suitable and efficient way of clarifying the use of BAT, or gaps in knowledge.

### Information Requests

Where it is determined that further information is required, where appropriate, the operator could be asked to submit this information formally. Regulation 63(2) of PPC 2012 provides SEPA with a legal mechanism to serve a notice that can require any person to provide such information as is specified in the notice.

Regular and open discussion with the operator is seen as the most effective way making the BATc review as efficient as possible.

SEPA staff must ensure that any information request is:

- focussed on clarifying a particular issue;
- clear and understandable as to which information is being requested and in what format;
- prescribes any clarification or interpretation which is required by SEPA staff;
- clearly sets any relevant time periods for submission; and
- where necessary, ensure the operator provides a clear demonstration that any proposed approach is BAT.

## Step 4 – Stage 2 BAT Assessment – BAT Assessment & Optioneering

The core principle of the BATc review is to assess whether the installation is employing BAT to meet the expected performance levels and achieve the BAT-AELs. This is done by comparing the performance of the techniques employed at an installation with the relevant BATc and its anticipated performance under normal operating conditions to achieve the BAT-AELs.

### What is BAT?

BAT is the Best Available Techniques and is defined as "the most effective and advanced stage in the development of activities and their methods of operation that indicates the practical suitability of particular techniques for providing the basis for emission limit values and other permit conditions designed to prevent, and where that is not practicable, reduce emissions and the impact on the environment as a whole".

There is a misconception that BAT is all about having the right types of technologies, kit and abatement plant at an installation. This is not the case. BAT is about the optimisation of site-specific performance. It may be the case that an installation has all the most modern technologies and abatement equipment, but if it is not operated or maintained correctly, the performance of this equipment is not optimised, and it may not be BAT. Similarly an installation could use older technologies, but is operated in such a way that their performance is optimised and is BAT for that installation.

The BATc do not define which techniques or technologies should be used by an installation. The practical suitability of particular techniques will vary on a case by case basis and will be site specific – dependent upon the technical characteristics of the installation, operational limitations, local conditions and any environmental outcomes that SEPA merits necessary to minimise impact and protect the environment as a whole.

The BATc will contain BAT - associated emission levels (BAT-AELs). Typically BAT-AELs will be presented as a range. It should be noted that due to the principle of optimisation where the BATc present a range of emission limits it is not appropriate to simply set the ELV at the top of the BAT-AEL range. The appropriate ELV from the BAT-AEL range is what protects the environment and can be achieved by the optimised performance of the installation when operating normally.

This means that as part of the BAT assessment SEPA must assess and ensure that site specific performance is optimised and can achieve the performance levels within the range of the BAT- AELs. If we conclude as part of our assessment that site-specific performance is optimised, then BAT for that installation will be reflected by the emission levels associated with this optimised performance, and ELVs set accordingly.

### BAT Assessment

While the BATc do not specify that a particular technology or technique is utilised by an installation, it lists various technologies and techniques that may be applicable. This is not an exhaustive list and if a technique has not been identified by the BATc this does not mean that it is not BAT.

Where a technology or technique has been listed in the BATc, BAT associated emission levels or BAT associated performance levels may also be included. These will present what is considered to be the normal operating range for BAT techniques or technologies and should be the reference for setting the permit conditions. These are also a useful reference for determining whether the performance of a particular installation is optimised and should form the basis of any discussions with the operator. It should be noted that the BATc may prohibit the use of certain technologies or techniques, however this is unusual.

If a technique or technology is not mentioned in the BATc it does not mean that it is not BAT. SEPA can set permit conditions on the basis of techniques that are not described in any of the relevant BATc – however it must be satisfied that the proposed approach represents BAT.

Where an alternative technique is proposed, SEPA should utilise Annex III of the IED that contains criteria for determining Best Available Techniques. These criteria should be considered in assessing whether the proposed alternative technique are based on sufficient justification from the operator and can be considered to be BAT.

These criteria include:

1. the use of low-waste technology;
2. the use of less hazardous substances;
3. the furthering of recovery and recycling of substances and used in the process and of waste, where appropriate;
4. comparable processes, facilities or methods of operation which have been tried with success on an industrial scale;
5. technological advances and changes in scientific knowledge and understanding;
6. the nature, effects and volume of the emissions concerned;
7. the commissioning dates for new or existing installations;
8. the length of time needed to introduce the best available technique;
9. the consumption and nature of raw materials (including water) used in the process and energy efficiency;
10. the need to prevent or reduce to minimum the overall impact of the emissions on the environment and the risks to it;
11. the need to prevent accidents and to minimise the consequences for the environment; and
12. information published by public international organisations.

If an alternative technique is considered to satisfy these criteria, and is BAT, SEPA must also set emission limit values that ensure that under normal operating conditions the emissions do not exceed the BAT-AELs in the BATc.

### BAT Assessment Tools

In many cases the assessment of BAT will depend on the expert judgement of SEPA officers, based on information already held or provided by the operator. It is acknowledged there is an inherent risk of inconsistency in adopting this approach.

BAT can be assessed using the H1 software tool developed by the Environment Agency. The H1 tool assesses risks for the activity, except for assessing risks for intensive farming.

The tool includes:

- instructions on how to develop risk assessments;
- calculates the risk and screens out insignificant releases; and
- presents data to allow SEPA to assess the risk associated with an activity.

SEPA is aware that there are limitations in the use of the H1 methodology. It can be complicated to use and difficult to understand. Furthermore its applicability as a BAT assessment tool has in many cases been superseded by other assessment and monitoring methodologies.

To fill this capability gap and provide a suitable and accessible solution for assessing BAT, SEPA has commenced research to develop a new and robust methodology for appraising BAT. It is intended this will be developed so that it can be utilised by both SEPA staff and operators ensuring consistent application and assessment of what is BAT.

### Considering a Range of Options

Where it is assessed that an installation is not currently BAT, the operator must undertake an assessment of the options to minimise the emissions and specify the steps that will be taken to employ BAT at the installation by the end of the BATc review period. This process is called optioneering.

It is likely that in most cases that the options for achieving BAT can be addressed in a number of ways – BAT will vary on a site by site basis. SEPA considers that it is a basic principle of BAT assessment to consider a range of

options that could be BAT for an installation and to carry out an options appraisal – optioneering. Without considering a range of options SEPA considers that it is not possible to determine if the chosen approach represents the most suitable option, and therefore represents BAT.

Optioneering should always include at least one option for reducing the emissions to within the BAT-AEL range within the BATc review deadline (where this is technically feasible). Where appropriate the operator may also need to consider options that would allow the installation to achieve the BAT-AELs after the BATc review deadline – these options should be assessed on the basis of other options resulting in disproportionate costs of dis-benefits to the environment. Under these circumstances the "do nothing – status quo" option may also be considered as an appropriate alternative approach.

Crucially any options that are being considered must be considered to represent the Best Available Techniques (BAT).

### Optioneering, Costs and Benefits

The consideration of costs and benefits of credible options is an important aspect of optioneering. The operator should ensure that an analysis of costs and benefits is made available for the range of credible options considered. It is acknowledged that there may be challenges in producing accurate costs. As a consequence it may not always be possible to conduct an assessment that relies fully on a quantitative analysis.

This means that optioneering may not provide the type of cost benefit analysis (CBA) that might be required by SEPA in order to justify derogation (where the options do not provide a solution that delivers emissions within the BAT-AEL range, see step 5). The feasibility of producing such a cost benefit analysis will ultimately depend upon being able to estimate costs with sufficient accuracy in a meaningful way.

Where a cost benefit analysis is required to justify derogation, the operator should provide a CBA for both the selected upgrade option **and** for the option that would allow the installation to achieve emissions within the BAT-AEL ranges within the BATc review deadline. This is required in order to demonstrate disproportionate costs.

Further information on costs and benefits can be found in Appendix 12.

### Justification for Preferred Option

The operator will have a preferred option and should indicate the reason(s) the proposed option has been selected.

As part of this justification the operator should state the reason that an option is being selected and where necessary, give details of any benefits and risks associated with the option, and why they are preferred over other options, including why other possible options are not selected and are therefore not the best options for the site specific circumstances.

The operator should as part of its justification provide evidence to support understanding of underlying cause as to why a particular option has been selected. This could take the form of technical assessments, monitoring data, photographs, historic maps or survey data.

The operator should demonstrate that the proposed upgrades will provide the intended benefits (e.g. these benefits may include the protection of important infrastructure and buildings, valuable land resource, or renewable energy production), but most importantly why the preferred option is BAT and will achieve emissions within the BAT-AEL range.

## Step 5 – Stage 2 BAT Assessment – Derogation Appraisal

Derogation can only be considered after the site specific BAT assessment for the whole installation has been concluded, and if the BAT assessment and optioneering undertaken in Step 4 does not demonstrate a BAT option that will achieve emissions within the BAT-AEL range within the BATc review deadline.

The need to consider derogation will arise only if SEPA concludes that an operator's BAT Assessment adequately demonstrates that BAT in that operator's specific circumstances might be defined by an ELV that exceeds the upper end of the applicable BAT-AEL range. This should be on a time limited basis in order to allow the investment necessary to reduce emissions to an appropriate point within the BAT-AEL range.

It is a common misconception that derogation is from both BAT and the full requirements of the IED – this is not the case.If you consider that an Installation may require derogation please refer to **IED-TG-44** and contact the Industry Unit for guidance and support.

## Step 6 – Stage 3 BAT Assessment – BAT Confirmation

Following the completion of the site specific BAT assessment and prior to commencing the permit review and any permit variation, the operator should be informed of the conclusions of SEPA's installation specific BAT assessment. This will confirm whether operations at the installation can be considered to be BAT.

Following the confirmation of site specific BAT you should then proceed with the next steps of procedure **IED-P-13.**

## SEPA Approach to BAT

### General BAT condition

Regulation 22 of PPC 2012 states that it is a condition of every permit that the operator must use the best available techniques for preventing or where that is not practicable reducing emissions from an installation. This means that it is a condition of every permit to use BAT; it is not an inferred condition (as was the case under the Pollution Prevention and Control (Scotland) Regulations 2000 (PPC 2000)). Therefore, where an operator does not apply BAT this is a breach of permit conditions and appropriate enforcement action may be used. This requirement was developed to clarify and improve upon the enforceability of the "inferred" BAT condition from PPC 2000.

In order to effectively use this general BAT condition it is essential that site specific BAT is clarified, documented and confirmed with the operator. The BATc Review is an appropriate opportunity to do this and clarify the BAT position of each PPC Part A Installation. Utilising the general BAT condition presents an opportunity to simplify PPC Permits.

It should be noted that the general BAT condition does not apply to the extent that any other condition of a permit has the same effect.

### BAT and Inspections

Article 21 of the IED specifies that when reconsidering permit conditions as part of the BATc review, SEPA should use any information resulting from monitoring and inspections. Therefore the results of routine inspections should be used to help inform decisions on BATc reviews.

Following the BATc review and the conformation of site specific BAT, it is recommended that "compliance" with BAT is assessed as part of the routine inspection cycle to ensure that SEPA's understanding of site specific BAT is maintained until the next BATc review. This is not to say that site-specific BAT is fixed until the next BATc review, but rather that it is continually assessed as part of good regulatory practice. It is anticipated that this approach would allow future efficiencies to be gained in the BATc review process.

## Consultation and Public Access to Information

### Consultation

The IED requires that the public participation directive (PPD) provisions could apply to permit variations as a consequence of some BATc reviews. This requirement is only triggered where:

- it is proposed to vary a permit to include a lower or additional ELV in order avoid significant pollution; or
- it is proposed to vary a permit so that an ELV for normal operating conditions that exceeds the upper end of a relevant BAT-AEL range will be included – i.e. derogation is required.

If a BATc review triggers the requirement to undertake PPD you should follow IED-PG-01-04.

### Public Access to Information

The IED requires that information regarding the BATc review, decision documents and any associated permits variations must be made available to the public. This means that this information will be made available on the public register (available in SEPA local offices and electronically).

This requirement has not been transposed by PPC 2012, but the Scottish Ministers have made a direction requiring SEPA to comply with this obligation.

## Charging

The current version of SEPA's charging scheme guidance states:

> *There will be no charge associated with SEPA- initiated variations. This work is considered to be part of SEPA's on-going work and the costs are recovered via annual charges.*
>
> *There may be some circumstances where there is extensive work associated with variations (such as the BRef reviews) where SEPA has to undertake a lot of additional work itself and needs to employ additional staff/consultancy support in order to manage the scale of work. Under these circumstances, SEPA may require operators to submit an application. Under these circumstances we would charge for a standard variation in order to fund the additional staff resources required to manage such a peak in workload. The decision to require operators to apply for a variation, because the resource demands exceed SEPA's capacity to manage the variations, requires Regional Management Team clearance.*

This means that SEPA is currently unable to require operators to pay a fee for any subsequent variations that are required following a BATc review unless Regional Management Team (RMT) clearance is received. Therefore unless RMT clearance is received, only SEPA initiated variations will be used following BATc reviews.

However SEPA's charging scheme guidance also specifies that:

> *In the next legal scheme it is intended to have a specific category for this so it is more explicit for staff and operators.*
>
> *As such we are currently developing a proposed position for inclusion in the forthcoming charging scheme review consultation which will outline and clarify SEPA's intended future position for charging for BATc Reviews.*

IED-P-13 and IED-TG-43 will be updated as needed to reflect any future changes in our position to charging.

## Enforcement Position

It is a requirement of the IED that BATc reviews are completed and where necessary the permit is varied within 4 years of the publication of the BATc for the main activity of the installation.

Where it is assessed that the installation cannot meet BAT or derogation cannot be justified SEPA will commence appropriate enforcement action in line with SEPA enforcement policy and guidance.

## Summary

The purpose of this guidance document is to explain, as simply as possible, how BATc reviews are to be approached. This is a complex subject area and it is acknowledged that not all aspects have been discussed in detail.

A list of frequently asked questions has been included on page 19 of this guidance document. This will provide clarity on some of the more common issues and it is our intention that this list will be added to as further questions arise.

If you require any further information or clarification please do not hesitate to contact the SEPA's Industry Unit for advice (ppc@sepa.org.uk).

## Frequently Asked Questions

### 1. What level of detail is required to demonstrate BAT?

The level of detail required will vary depending upon the requirements of each individual BAT conclusion.

For most BAT conclusions it is anticipated that SEPA will have previously made a decision during the initial application determination and BAT will be sufficiently demonstrated by the content of previous decision documents or permit conditions. Under these circumstances a reference to any previous decision will be sufficient.

Where a new decision is needed to demonstrate BAT, the justification that the activity is BAT should be fully documented.

### 2. Who assesses BAT?

It is SEPA's duty to assess whether an installation is BAT. In most cases SEPA will have previously made a decision on whether an installation is BAT.

### 3. How do we get access to information to assess whether an installation is BAT?

The operator should not be asked to demonstrate "compliance" with the BATc, SEPA should undertake a BAT assessment using the relevant BATc(s) as a reference.

It is considered that SEPA will already hold most of the information needed to assess site specific BAT. This could be in the form of previous determinations, decision documents, permit conditions, inspection reports, monitoring information or on the ground knowledge.

Where there are gaps in this information to assess BAT, the operator can be formally asked to submit further information. It should be noted that any request for additional information should be targeted.

### 4. How can the operator apply for derogation?

The operator can't apply for derogation. Derogation appraisal should follow a BAT assessment and can be used by SEPA in very specific circumstances only. For example where it is sufficiently demonstrated that site specific BAT for a particular installation may be represented by an ELV which exceeds the BAT-AEL range.

### 5. Do mothballed or inactive sites need a BATc Review?

Yes. These Installations are still subject to a BATc review, which should be completed within the relevant timescales. Where the Installation needs to upgrade, permit conditions should be included that prevent operation until these upgrades are made.

## Appendix 1 – Site Condition and Baseline Reports

The IED introduced additional site condition requirements for Part A installations, namely a requirement to quantify a baseline site condition and to undertake periodic monitoring of soil and groundwater. When a permit is reviewed it must fully comply with these PPC 2012 requirements.

### Identification of relevant hazardous substances (RHS)

Before baseline condition and soil and groundwater monitoring requirements can be considered, it is necessary to carry out a review of the substances currently used at the installation to establish whether relevant hazardous substances (RHS), or substances representing a theoretical pollution risk, are present at the installation. This is a staged process in which:

1. The substances used, produced or released at the installation are identified and a list produced of hazardous substances (as defined by CLP Regulations) and other substances presenting a theoretical pollution risk - the ECHA web site is a useful reference.
2. The substances identified in stage 1 are filtered to identify RHS by considering whether their hazardousness, mobility, persistence and biodegradability or other characteristic means that they are capable of contaminating soil or groundwater. Those substances which are not RHS or are incapable of causing pollution are discarded from further consideration if this can be justified.
3. For each substance brought forward from stage 2, the actual possibility for soil or groundwater contamination at the site of the installation is identified, including the probability of releases and their consequences, taking particular account of: the quantity present; how and where store/transported/used; and measures to prevent contamination.

For more detailed guidance refer to Table 5.1 in IEG-TG-02 and Figure 1 in IED-TG-42. Requests from SEPA inspectors for support when reviewing hazardous substance assessments should be directed to contaminated.land@sepa.org.uk who will seek input as required from Evidence.

It is likely that RHS will be present at most Part A installations; it is therefore recommended that operators carry out the above assessment and review of their existing site report at the start of the permit review process. This will inform whether a baseline report or additional monitoring is required. Table 6.1 within IEG-TG-02 illustrates how an assessment may be undertaken, with Sections 6.1, 6.2 and 6.3 providing detailed guidance.

### Baseline Reports

Whilst all Part A installation operators submitted a site report with their permit application, not all quantified the condition of soil and groundwater for substances used on site that would now be considered RHS or pose a theoretical pollution risk. IED requires quantification of relevant hazardous substances and indeed any other substances (e.g. chrome salts, dyes, active ingredients) which represent a theoretical pollution risk based on consideration of their chemical and physical properties. As part of the permit review consideration must be given as to whether the site report submitted with the original application and any subsequent variations quantified the condition of relevant hazardous substances in soil or groundwater. It is useful to work through the checklist in Appendix 4 of IEG-TG-02. If the initial site report does not meet IED baseline report requirements, then the extent of the gap will need to be identified and a decision made whether there is a need to:

- install groundwater monitoring wells, either for the first time or to extend an existing network;
- collect and analyse RHS (and other theoretical pollutants) in soil and groundwater during/after well installation;
- revise the Site and Baseline Report accordingly.

Where the operator considers that there is no requirement to establish baseline condition of certain hazardous substances as there is no potential for the substances to contaminate soil or groundwater (e.g. very small quantities present, impossible in practice for contamination to occur), the operator may apply to SEPA for a waiver.

To avoid baseline report considerations delaying the permit review, these aspects should be considered in the early stages of the review so that any requirements for additional data can be requested from the operator. This is particularly important where an operator is likely to be required to carry out additional monitoring.

## Appendix 2 – Protection of Soil and Groundwater

There is a requirement that a reviewed permit should address the need for measures to be employed by the operator to prevent the contamination of soil and groundwater – PPC 2012, Regulation 23(2) (b).

In addition, there is a requirement that a permit should require periodic monitoring of soil and groundwater in order to check whether these measures are effective at protecting against contamination from relevant hazardous substances. The minimum frequency for this periodic monitoring is set at least once every 5 years for groundwater and 10 years for soil – PPC 2012,Regulations 23(2)(f)(i), 23(2)(f)(ii) and 23(3)(b).

It should be noted that the requirement for periodic monitoring of soil and groundwater is independent to the requirement to undertake a baseline report. This means that if an operator doesn't need to submit a baseline report, or has received a baseline report waiver, they are not exempted from the duty to undertake periodic monitoring of soil and groundwater.

### Periodic monitoring of soil & groundwater

Periodic monitoring of soil and groundwater is required where relevant hazardous substances are present and there is a possibility of an undetected release that could cause soil or groundwater contamination. Monitoring enables any changes in condition to be identified, prompting consideration of action required to prevent further deterioration of soil or groundwater, or to address any deterioration ahead of permit surrender.

Where relevant hazardous substances are not present at an installation, the permit template condition requiring a systematic assessment needs to be included only (Condition 2.7.4).

Where periodic monitoring of soil and groundwater is required, permit template soil and/or groundwater monitoring conditions need to be included in the permit (Conditions 2.7.5 to 2.7.11). When determining monitoring requirements, existing monitoring should be reviewed and consideration given to the following:

- the parameters to be monitored – dictated by RHS present;
- media to monitor – soil, shallow or deep groundwater;
- number of monitoring points required – depends on potential for contamination;
- monitoring location – to include areas where there is potential for contamination;
- frequency of monitoring – refer to *aide memoir* 1 in IED-TG-42 (and *aide memoir* 2 where frequency falls within category 2).

Section 4.2, Stage 4 of IED-TG-42 provides more detailed guidance.

It should be noted that:

1. monitoring should not be required that would result in the creation of a pathway to soil or groundwater.
2. the practical constraints of obtaining soil or groundwater samples where drains, services or overhead structures are present should be recognised; and
3. it is not necessary to quantify every RHS if an indicator of the presence of RHS has been quantified i.e. pH as indicator of acidic/alkaline substances, Total Petroleum Hydrocarbons (TPH) as an indicator of hydrocarbons, presence of solvent within which RHS contained, number of substances always present together.

For more detailed guidance refer to IED-TG-42. Requests from SEPA inspectors for support should be directed to contaminated.land@sepa.org.uk

## Appendix 3 – Emissions and Emission Limit Values

A list of pollutants and groups of pollutants in respect of which ELVs might be expected is given in Schedule 5 of PPC2012. The fact that a pollutant is identified in Schedule 5 doesn't mean that an ELV should always be imposed. This is because a pollutant must be emitted in sufficiently significant quantities in order to merit an ELV.

In addition to this, Regulation 25(2) (b) of PPC 2012 allows that ELVs may be imposed for pollutants or groups of pollutants other than those listed in Schedule 5.

Regulation 25(2) of PPC 2012 requires that a permit must contain emission limit values (ELVs) for pollutants or groups of pollutants that are likely to be emitted in significant quantities in the context of their nature and their ability to transfer from one environmental medium to another – this is the prompt for determining whether to include an ELV.

### BAT Associated Emission Levels (BAT-AELs)

The BATc will contain BAT-AELs. These should be used as the basis for setting ELVs.

A BAT-AEL will relate to an emission of a pollutant or a group of pollutants (e.g. VOCs) and will generally be to either air or water. Where the emission of a pollutant may vary due to the use of different fuels or different process configurations, a number of ranges may be provided to allow for these different scenarios – applicability criteria will be included to ensure that the most appropriate BAT-AEL range is identified.

The BAT-AELs present the allowable range of emissions for a particular pollutant. ELVs should not be set on the basis of the top of the BAT-AEL range, but rather on the basis of a site specific BAT assessment that identifies the emissions associated with the optimised performance of the installation.

## Appendix 4 – Waste Generation and management

One of the permitting principles requires that conditions reflect the need for measures to be taken to prevent waste, and for any unavoidable wastes to be managed according to the waste hierarchy. As it is a BAT consideration, BATc normally address these issues.

BATc are therefore likely to provide an indication of techniques that might be used to reduce waste generation levels and they may also include BAT associated performance levels (BAT-AEPL). Generally these will be expressed in terms of specific generation rates (e.g. kg of waste generated per tonne of product produced).

The list of techniques presented in BATc are nether prescriptive or exhaustive and there is therefore no obligation for operators to employ any of the techniques specified. Furthermore, there is no requirement for SEPA to ensure that operators do not exceed any BAT-AEPLs.

However, in recognition of the potentially significant benefits of ensuring waste generation rates are as low as practicable; SEPA has developed a comprehensive resource efficiency initiative. This imposes a requirement on operators, through permit conditions, to record waste generation rates, and periodically review options for reducing generation rates, and for dealing with waste in accordance with the waste hierarchy. This approach explicitly identifies BAT conclusions as relevant indicators of performance and key drivers for reducing waste generation, indirectly identifying that BAT conclusions are the reference for setting permit conditions.

However, as permit reviews will ideally take place as soon as possible after the publication of the BATc, operators are unlikely to have had the opportunity to have completed systematic assessments required by the resource efficiency initiative. Consequently a BATc review should not necessarily seek to make a premature judgement about an installation's performance, but instead ensure that the varied permit includes the necessary resource efficiency conditions so that opportunities for improvement can be pursued in the future.

It is therefore recommended that as a matter of good practice, any relevant BAT conclusions are considered by both SEPA and the operator when assessing or preparing a systematic assessment of resource efficiency.

## Appendix 5 – Other than Normal Operating Conditions (OTNOC) and Accidents

There is a requirement for a permit condition that requires the operator to notify SEPA in the event of an accident or incident significantly affecting the environment – PPC 2012, Regulation 23(2) (h). Permits should already include conditions that deliver this requirement.

In addition, there is a requirement for conditions to address other than normal operating conditions, whether they are planned (e.g. start-up and shut down) or unplanned (e.g. an incident) – PPC 2012, Regulation 23(2) (e).

An ELV may be set with the purpose of limiting the impact of emissions during other than normal operating conditions. However it may be necessary to include additional conditions requiring actions to be taken in this event. These could involve amending the way that a process functions, and possibly require the shutting down of the process in certain circumstances. The conditions could also include a need for the operator to prepare appropriately for a range of potential eventualities.

## Appendix 6 – Commencement and Cessation of Operations

There is a specific requirement for permit conditions to address decommissioning – PPC 2012, Regulation 23(2) (d). Permits should already include conditions that address this requirement. It is anticipated there should be no need to further address this issue during the BATc review unless a problem in the operator's with planning for the cessation of operations has been identified.

## Appendix 7 – Energy Efficiency

There is no requirement for permit conditions to address energy efficiency, although one of the permitting principles is that energy is used efficiently – PPC 2012, Regulation 21(3) (a) (ii). Furthermore, where an activity, other than an incineration process, is subject to the ETS regime, SEPA may choose not to address energy efficiency.

However, energy efficiency is a BAT consideration and BATc normally address the issue. The BATc are therefore likely to provide an indication of techniques that might be used to improve energy efficiency and they may also include BAT associated performance levels (BAT-AEPL).

The list of techniques presented in BATc are nether prescriptive or exhaustive and there is therefore no obligation for operators to employ any of the techniques. Furthermore, there is no requirement for SEPA to ensure that operators meet any BAT-AEPLs.

However, in recognition of the potentially significant benefits of ensuring energy efficiencies are as high as practicable; SEPA has developed a comprehensive resource efficiency initiative. This imposes a requirement on operators, through permit conditions, to record efficiency levels, and periodically review options for increasing efficiency levels. This approach explicitly identifies BATc as relevant indicators of performance and key drivers for increases in energy efficiency, indirectly identifying that BATc are the reference for setting permit conditions.

However, as permit reviews will ideally take place as soon as possible after the publication of the BATc, operators are unlikely to have had the opportunity to have completed systematic assessments required by the resource efficiency initiative. Consequently a BATc review should not necessarily seek to make a premature judgement about an installation's performance, but instead ensure that the varied permit includes the necessary resource efficiency conditions so that opportunities for improvement can be pursued in the future.

It therefore recommended that, as a matter of good practice, any relevant BATc are considered by both SEPA and the operator when assessing or preparing a systematic assessment of resource efficiency.

## Appendix 8 – Noise and Vibration

There is no specific requirement for permit conditions to address noise and vibration. However noise and vibration is a BAT consideration and BATc therefore normally address the issue.

SEPA's permits currently included conditions that address the management of noise and vibration and these should be considered sufficient unless there is a known issue with noise and vibration management. If this is the case, conditions requiring improvements should be included in the permit. Any such conditions should take cognisance of any relevant BATc.

## Appendix 9 – Odour

There is no specific requirement for permit conditions to address odour, however, where a specific pollutant is identified as being odorous there may be a requirement for an ELV for that substance. Odour is a BAT consideration and BATc will therefore normally address the issue.

SEPA's permits currently include conditions that address odour management, and these should be considered sufficient unless there is a known issue with odour management. If this is the case, conditions requiring improvements should be included in the permit. Any such conditions should take cognisance of any relevant BATc.

## Appendix 10 – Raw Material and Water Consumption

There is no specific requirement for permit conditions to address raw material and water consumption. However, it is a BAT consideration and BATc therefore normally address the issues.

BATc are likely to provide an indication of techniques that might be employed to reduce consumption levels, and they may also include BAT-AEPLs, which are likely to be expressed in terms of specific consumption rates (e.g. litres of water consumed per tonne of product produced). The lists of techniques presented in BATc are nether prescriptive or exhaustive, and there is therefore no obligation for operators to employ any or all of the techniques. Furthermore, there is no requirement for SEPA to ensure that operators do not exceed any BAT-AEPLs that may be included.

However, in recognition of the potentially significant benefits of ensuring that consumption levels are as low as practicable, SEPA has developed a comprehensive resource efficiency initiative. This imposes a requirement on operators, through permit conditions, to record raw material and water consumption levels, and periodically review options for reducing consumption levels. This approach explicitly identifies BATc as relevant indicators of performance and key drivers for reductions in consumption, indirectly identifying that BATc are the reference for setting permit conditions.

However, as permit reviews will ideally take place as soon as possible after the publication of the BATc, operators are unlikely to have had the opportunity to have completed systematic assessments required by the resource efficiency initiative. Consequently a BATc review should not necessarily seek to make a premature judgement about an installation's performance, but instead ensure that the varied permit includes the necessary resource efficiency conditions so that opportunities for improvement can be pursued in the future.

It therefore recommended that, as a matter of good practice, any relevant BATc are considered by both SEPA and the operator when assessing or preparing a systematic assessment of resource efficiency.

## Appendix 11 – Management

There is no specific requirement for permit conditions to address general management. However it is a BAT consideration and BATc will normally address the issue.

SEPA's permits currently include conditions that address management issues (procedures, responses to SEPA, etc.) and these should be considered sufficient unless there is a known problem with management systems or

procedures. If this is the case, conditions requiring improvements should be included in the permit. Any such conditions should take cognisance of any relevant BATc.

## Appendix 12 –Costs and Benefits

### Costs

Examples of the costs that can be taken into account include:

- relevant capital an operating costs for new plant, including relevant maintenance costs;
- cost of capital (the operator may need to borrow money to fund any investment, or perhaps divert funds from other income generating projects);
- the cost of writing off undepreciated plant that had been installed to reduce emissions, but which cannot meet the reduction that is now required and may therefore need to be replaced;
- any increase in decommissioning costs that might result from the investment; and
- any increase in general operating costs that might result from the investment.

However the following costs should be ignored or subtracted:

- costs that would have been incurred anyway (e.g. routine refurbishment, replacement of end of life plant etc.);
- the capital and operating costs of plant necessary for achieving a reduction in emissions that remained above the upper end of the BAT-AEL range, but which is nevertheless considered BAT at the installation in question (this investment would have to be made if a derogation is ultimately justified);
- any reduction in decommissioning costs that might result from the investment; and
- any reduction in general operating costs that might result from the investment.

Producing accurate costs will present a challenge as detailed designs are unlikely to be available and suppliers may be unwilling to provide detailed costs if they are unlikely to be contracted. Furthermore attempting to predict future operating costs will involve having to make a range of assumptions (e.g. about the cost of fuel and raw materials). Care should be taken to ensure that any costs have a sound basis.

Although the majority of capital costs will arise during the early years, costs incurred may be spread over many years. It is normal discount future costs in order to calculate a present value. The discount rate will have a significant influence on the ultimate determination of whether the derogation is valid. Standard discount rates are likely to be appropriate for most circumstances (currently 3.5% up to 30 years and 3% beyond 30 years) and any deviation from these will need to be fully justified.

### Benefits

The approach to making an assessment of benefits will depend upon whether damage costs are available for the pollutants concerned. A damage cost allows the benefit of the damage that is avoided as a result of the relevant reduction in emissions or any dis-benefits to be monetised – this will allow any net benefit to be quantified.

It should be recognised that achieving a reduction in the emission level of a specific pollutant may result in an increase in the emissions of other pollutants, increased raw material or energy consumption, increased waste or waste water production, or diminish amenity. These are called dis-benefits. If this is the case such cross media effects must be taken into account.

Damage costs are available only for certain pollutants emitted to air, and for many pollutants, in particular pollutants that are emitted to water, damage costs are unavailable. This means that benefits will be very difficult to monetise and a robust cost benefit analysis will be difficult to produce and assess.

If you require assistance with costs and benefits it is recommended that you contact the Industry Unit for advice.